

## CLAIMS:

1. A calibration method for calibration of a copy window control setpoint during readout of a magneto-optical recording medium (10) comprising a storage layer and a readout layer, wherein an expanded domain leading to a readout pulse is generated in said readout layer by copying a mark region from said storage layer to said readout layer upon heating by a radiation power with the help of said external magnetic field, said method comprising the steps of:
- a) varying at least one predetermined reading parameter;
  - b) monitoring a data pattern reproduced during said variation step;
  - c) determining at least one limit value for said at least one predetermined reading parameter based on said monitored data pattern;
  - d) setting said at least one reading parameter to a predetermined value determined on the basis of said limit value;
  - e) applying a predetermined additional pattern of change to said predetermined parameter; and
  - f) using a characteristic value of a phase change induced to said reproduced data pattern by said additional pattern of change as said control setpoint.
2. A method according to claim 1, wherein said at least one limit value comprises a lower limit value (x1) determined by the occurrence of at least one missing peak in said reproduced data pattern and an upper limit value (x2) determined by the occurrence of at least one false peak in said reproduced data pattern.
3. A method according to claim 1 or 2, wherein said characteristic value corresponds to the amplitude of said phase change.
4. A method according to claim 2, wherein said predetermined value is a value located between said lower and upper limit values.
5. A method according to claim 2 or 4, wherein said predetermined value is value roughly located in the middle between said lower and upper limit values.

6. A method according to any one of the preceding claims, wherein said predetermined reading parameter corresponds to at least one of the following values: the value of said radiation power and the value of said external magnetic field.
- 5 7. A method according to any one of the preceding claims, wherein said additional change pattern is a periodic modulation pattern having a predetermined frequency.
8. A method according to any one of the preceding claims, wherein said reproduced data pattern is a predetermined data pattern provided in a calibration area of said  
10 recording medium (10).
9. A method according to any one of claims 1 to 7, wherein said reproduced data pattern is an arbitrary user data pattern provided in a recording area of said recording medium (10), and wherein said determination step is based on a runlength violation detection.
- 15 10. A method according to any one of the preceding claims, wherein said at least one predetermined reading parameter is passively swept from a lower value to a higher value or vice versa during said variation step, said lower value being lower than all possible values of said lower limit value (x1) and said higher value being higher than all possible values of said  
20 upper limit value (x2).
11. A method according to any one of claims claim 1 to 9, wherein said at least one predetermined reading parameter is actively changed from an initial default value to a lower value or to a higher value during said variation step, the direction of change being determined  
25 in response to the number of false peaks or missing peaks determined in said reproduced data pattern during said monitoring step.
12. A method according to claim 10 or 11, wherein said lower limit value (x1) is set to a value corresponding to said lower value if a number of missing peaks detected during said  
30 monitoring step has reached a first predetermined threshold value, and said upper limit value (x2) is set to a value corresponding to said upper value if a number of false peaks detected during said monitoring step has reached a second predetermined threshold value.
13. A reading apparatus for reading from a magneto-optical recording medium (10)  
35 comprising a storage layer and a readout layer, wherein an expanded domain leading to a readout pulse is generated in said readout layer by copying a mark region from said storage layer to said readout layer upon heating by a radiation power with the help of an external magnetic field, said apparatus comprising:

- a) control means (30, 32) for controlling the size of a spatial copy window of said copying process by varying at least one predetermined reading parameter in response to a control information derived from said readout pulse;
- b) change means (32) for applying a predetermined additional pattern of change to said at least one predetermined parameter; and
- c) calibration means (290) for using a characteristic value of a phase change induced to a reproduced data pattern by said additional pattern of change as a reference setpoint for said control means (30, 32).

14. A reading apparatus according to claim 13, wherein said calibration means (290) is adapted to monitor said data pattern reproduced by said reading apparatus in order to determine a predetermined optimum value of said at least one predetermined parameter, and to detect said characteristic value of said induced phase change when said optimum value of said reading parameter is applied.

15. A reading apparatus according to claim 13, wherein said reading apparatus is arranged to read said characteristic value from said recording medium (10) and to supply said characteristic value to said calibration means (290).

16. A reading apparatus according to claim 15, wherein said reading apparatus is arranged to read said characteristic value from said recording medium (10) based on at least one predetermined parameter of said recording medium (10).

17. A reading apparatus according to claim 16, wherein said at least one predetermined parameter of said recording medium (10) comprises at least one of the following: a radial position and a reading velocity.

18. A reading apparatus according to any one of claims 13 to 17, wherein said characteristic value corresponds to the amplitude of said phase change.

19. A reading apparatus according to any one of claims 13 to 18, wherein said reading apparatus is a disc player for MAMMOS discs.

20. A recording medium comprising a storage layer and a readout layer, wherein an expanded domain leading to a readout pulse is generated in said readout layer by copying a mark region from said storage layer to said readout layer upon heating by a radiation power with the help of an external magnetic field, said recording medium (10) having written thereon a calibration information defining a reference setpoint for controlling the size of a spatial copy window of said copying process.

21. A recording medium according to claim 20, wherein said calibration information defines a plurality of reference setpoints for different values of at least one parameter of said recording medium (10).
- 5 22. A recording medium according to claim 21, wherein said at least one predetermined parameter of said recording medium (10) comprises at least one of the following: a radial position and a reading velocity.
- 10 23. A recording medium according to any one of claims 20 to 22, wherein said characteristic value corresponds to a phase amplitude of a data pattern reproduced from said recording medium (10).
- 15 24. A recording medium according to any one of claims 20 to 23, further comprising a calibration area with a predetermined data pattern for calibration of said reference setpoint.
- 20 25. A recording medium according to any one of claims 20 to 23, further comprising a calibration area with an arbitrary user data pattern for calibration of said reference setpoint.
26. A recording medium according to any one of claims 20 to 25, wherein said recording medium is a MAMMOS disc (10).